



LICOS Centre for Institutions and Economic Performance

Centre of Excellence

LICOS Discussion Paper Series

Discussion Paper 399/2017

A Historical Database On European Agriculture, Food And Policies

Johan Swinnen



Faculty of Economics And Business

LICOS Centre for Institutions and Economic Performance
Waaistraat 6 – mailbox 3511
3000 Leuven
BELGIUM

TEL: +32-(0)16 32 65 98

FAX: +32-(0)16 32 65 99

<http://www.econ.kuleuven.be/licos>

A HISTORICAL DATABASE ON EUROPEAN AGRICULTURE, FOOD AND POLICIES

Johan Swinnen

LICOS Centre for Institutions and Economic Performance
KU Leuven

July 2017

Abstract

This dataset includes annual data on agricultural production, prices, trade and derived policy indicators for various commodities and nine European countries since the second half of the 19th century until the countries joined the EU. The countries are Belgium, France, UK, Netherlands, Germany, Finland, Sweden, Spain and Italy. The data was collected from a variety of sources, mostly national statistics, and the commodity and time coverage varies between countries.

Acknowledgements

This research was supported by grants from the National Science Foundation (FWO) and the K.U. Leuven Research Council. Anja Crommelynck, Erik Mathijs, Isabelle Lindemans, Els Compernelle, Gunilde Simeons, Joris Stiers, Luc Vanhoof, Ilse Hiergens, Anja Lammens, Jukka Kola, Jyrki Niemi, Mona Habasch, Jarmo Salonen, Mari Männistö, Hans Peter Wietzke, Frans Van Der Zee, and Hannah Ameye assisted in the data collection, processing and indicator calculations.

1. Data Sources

Belgium

Annuaire statistique de la Belgique, 1871-1909
Centraal Bureau voor de Statistiek, Landbouwcijfers, 1923-1990
Commissie van de Europese Gemeenschappen, De toestand van de landbouw in de Gemeenschap, 1975-1988
Comissie van de Europese Gemeenschappen, Landbouwmarkten, 1967-1985
Exposé de la situation du Royaume, 1851-1860, 1861-1875, 1876-1900
Eurostat, Landbouwprijsstatistiek, 1969-1986
Landbouweconomisch Instituut, Landbouwstatistisch jaarboek 1986
Mitchell, B.R. (1981) European Historical Statistics 1750-1975, MacMillan, London.
Nationaal Instituut voor de Statistiek, Landbouwstatistieken, 1900-1961
Nationaal Instituut voor de Statistiek, Maandelijks Bulletin over de buitenlandse handel van de Belgisch-Luxemburgse Unie, 1963-1966
Statistisch Jaarboek voor België. Annuaire Statistique de la Belgique, 1960-1989
Statistisch Jaarboek voor België en Belgisch-Kongo, 1910-1959
Tableau général du commerce avec les pays étrangers, 1850-1913

The Netherlands

Centraal Bureau voor de Statistiek (1959). Zestig Jaren Statistiek in Tijdreeksen, W. de Haan N.V., Zeist.
Centraal Bureau voor de Statistiek (1970). Zeventig Jaren Statistiek in Tijdreeksen, Staatsuitgeverij, Den Haag.
Centraal Bureau voor de Statistiek (1979). Tachtig Jaren Statistiek in Tijdreeksen, Staatsuitgeverij, Den Haag.
Centraal Bureau voor de Statistiek (1989). Negentig Jaren Statistiek in Tidreeksen, Staatsuitgeverij, Den Haag.
Centraal Bureau voor de Statistiek, Jaarcijfers voor Nederland, W. De Haan N.V., Heist, 1924-1960.
Centraal Bureau voor de Statistiek, Statistisch Zakboekje, Staatsuitgeverij, Den Haag.
Directie van den Landbouw, Verslagen en Mededelingen van de Directie van den Landbouw, 1904-1919
Landbouw-Economich Instituut/Centraal Bureau voor de Statistiek Landbouwcijfers, LEI, 's Gravenhage.
Ministerie van Binnenlandse zaken, Verslag van den Landbouw in Nederland 1851-1902, 's Gravenhage.
Mitchell, B.R. (1992). International Historical Statistics Europe, 1750-1988, Stockton Press, New York.
Pilat, D. (1988). Dutch Agricultural Export Performance, 1846-1926, onderzoeksmemorandum 296, University of Groningen, Groningen.
Van Der Meer, C.L.J. (unpublished). Data Bank of Series on Long Term Economic Development in Early and Late Developing Countries manuscript, University of Groningen.

France

- Delorme R. & Andre C. (1983). L'Etat et l'économie, un essai d'explication de l'évolution des dépenses publiques en France (1870-1980), Editions du seuil, Paris. (GDP)
- Direction générale des Douanes: 'Tableau général annuel du Commerce'. (prices, 1950-1960)
- Direction Générale des douanes et droits indirects (1865-1955), Tableau général du commerce extérieur. (import and export quantities)
- INSEE : Annuaire statistique rétrospectif de la France (1949, 1951, 1966). (Total consumption, added value in industry, price indices)
- Les Collection de l'INSEE, (1963). 70 (série C), Comptes trimestriels 1949-1959. (GDP, 1946-1960)
- Les Collection de l'INSEE, (1977). 46-47 (série E), Les Agriculteurs Tome I, clés pour une comparaison sociale. (active population, active population in agriculture)
- Levy-Leboyer, M. & Bourguignon, F. (1985). L'Economie française au XIXe siècle, Economica, Paris. (consumption, GDP)
- Markovitch, T.-J. (1966). L'Industrie française de 1789-1964, Cahiers de l'ISMEA (added value in industry)
- Ministère de l'agriculture (1983). Statistique agricole annuelle. (import, export and production quantities)
- Mitchell, B.R. (1981), European Historical Statistics 1750-1975, The Macmillan Press Ltd, London and Basingstoke. (Production figures, butter, porc, share of agriculture in GDP, national accounts)
- Toutain, J.-C. (1961). La croissance du produit de l'agriculture entre 1700-1958, in : Cahiers de l'ISEA, 115, p.1-287. (Added value in agriculture)
- Toutain, J.-C. (1963). La population de la France de 1700 à 1959, in Cahiers de l'ISEA, 133. (active population)
- Toutain, J.-C. (1971). La consommation alimentaire en France de 1789 à 1964, in : Economies et sociétés, Cahiers de l'ISEA, V(11), p. 1909-2049. (consumption, production)
- Toutain, J.-C. (1987). Le produit intérieur brut de la France de 1789 à 1982, Economies et Sociétés, Cahiers de l'ISMEA, Série : Histoire quantitative de l'économie française AF, 15. (GDP)
- Van Der Meer, C.L.J. (unpublished). (share of agricultural population)

UK

- Ministry of Agriculture and Fisheries : "Agricultural Statistics", 1895-1962. (Price and trade data)
- Mitchell B.R., Deane P. (1971). Abstract of British Historical Statistics, Cambridge University Press, Cambridge. (Production, output value, and national accounts data)
- Sauerbeck, A.. Prices of commodities and precious metals, in: Journal of the Royal Statistical Society, 1904-1927
- Van Der Meer, C.L.J. (unpublished). (Relative income, share of population in agriculture)

Germany

Producerprices, production, agricultural population, GDP, consumption data:

- Hoffmann, W.G. (1965). Das Wachstum der Deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts. Springer Verlag. pp842
 - FAO, production yearbook
 - EUROSTAT, agricultural prices
- Trade quantities, -values:
- Statistisches Jahrbuch für das Deutsche Reich
 - Statistisches Jahrbuch über Landwirtschaft, Ernährung und Forsten
 - Wirtschaft und Statistik
 - FAO, trade yearbook
- Production quantities, GDP:
- Mitchell, B.R. (1981). European Historic Statistics 1750-1975. Sijthoff & Noordhoff International Publishers. pp 868
 - Statistisches Jahrbuch für die Bundesrepublik Deutschland
- Agricultural and total Population
- OECD, manpower statistics
- GDP, GNP and consumption data:
- OECD, national accounts

Finland

- Tilastokeskus (Central Statistics, Helsinki):
- Ulkomaankauppa (Import and export data, 1885-1990)
 - Kulutus Suomen Kansalouden (Consumption data, 1900-1975), Eino H. Laurila. The Research Institute of the Finnish Economy, Helsinki 1985.
 - Statistical Yearbook, Official Statistics Finland (production, GNP, value added, 1880-1990)
 - Soinen M. (1982): Maa- ja metsätalous in jorma ahvennien, Pihkala & Rasila Suomen taloushistoria 2, Tarmi, Helsinki, 1880-1990)
 - Statistical Yearbook of Finnish Agriculture (domestic producerprices, 1975-1990)
 - Population by Industry and Commune in 1880-1975, stat. Surveys nr. 63. Helsinki 1975. (Employment distribution, 1880-1975)
- MTTL (Maatalouden Taloudinen Tutkimuslaitos, Helsinki – Agricultural Economics Research Institute)
- Tilastoja Suomen Maatalodesta (Balance sheets for food commodities) (1950-1990)
 - Suomen Taloushistoria 3, (Economic History 3, production data, 1930-1980)
- PSM (Pellervo-Seuran Markkinatutkimuslaitos, Turku)
- PSM, special issue 1982 (Domestic prices, 1932-1982)
- OECD (Organization for Economic Cooperation and Development)
- OECD (1975) La Politique agricole en Finlande, Rapport sur les politiques agricoles, Paris. (World market prices)
 - OECD (1989) Politiques nationales et échanges agricoles : Etude par pays, Finlande, Paris. (World market prices)

Sweden

- Johansson, Ö. (1962) The Gross Domestic Product of Sweden and its composition 1861-1955. (added value in agriculture, consumption)
- Jordbruksstatistisk Årsbok, Statistiska Central byrån, Stockholm (production quantities, producerprices)
- Jordbruksekonomiska meddelanden, Statens Jordbruksnämnd (producerprices)
- Jordbruksekonomiska uppgifter, Kommerkollegium och Statens Livsmedelskommission (producerprices)
- Krantz, O. & Nilsson, C.A. (1975) Swedish National Product 1861 – 1971, new methods and measurement. (GDP)
- Ljungberg, J. (1990) Priser och marknadskrafter i Sverige 1885 – 1969, en prishistoriska studie (producerprices)
- Statistisk Årsbok för Sverige, Statistiska Central byrån, Stockholm (production quantities, rural population, added value in agriculture)
- Statistiska meddelanden – National räkenskaper, Statistiska Centralbyrån, Stockholm (GDP, consumption)
- Utrikeshandel, Statistiska Centralbyrån, Stockholm (trade data)

Italy

- Annuario Statistico Italiano
- ISTAT, Benedetto Barberi: I consumi Nel Primo Secolo Dell'Unità D'Italia, 1861-1960
- FAO trade yearbook en Annuario Statistico Italiano
- National Bank

2. Overview of the Data

The completeness of the data depends largely on what is available in the respective national records and statistics. We discovered that the availability of the data varies strongly between countries. Table 1 gives a summary of the available data per country and commodity.

Table 1: Overview of the data by country and commodity

| | Belgium | Netherl. | France | UK | Germany | Finland | Sweden | Spain | Italy |
|---|----------------------|-----------|-------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|
| | 1877-1988 | 1929-1980 | 1857-1960 | 1875-1960 | 1951-1992 | 1931-1990 | 1905-1996 | 1875-1990 | 1951-1992 |
| <i>Total Population</i> | | | | | | | | | |
| <i>Share of population in agriculture</i> | | | 5/10-yearly | | | | | | |
| <i>Relative income of the ag, sector</i> | | | | | | | | | |
| <i>Gross domestic product</i> | | | | | | | | | |
| <i>Share of commodities in GDP</i> | | | | | | | | | |
| <i>Self Sufficiency Rate</i> | | | | | | | | | |
| <i>Share of food in consumers' exp.</i> | | | | | | | (1945-) | | |
| <i>Nominal protection coefficient</i> | | | | | | | | | |
| <i>Domestic producer prices</i> | | | | | | | | | |
| <i>import price</i> | | | | | | | | | |
| <i>Consumer price index</i> | | | | | | | | | |
| <i>Border prices</i> | | | | | | | | | |
| <i>Production</i> | | | | | | | | | |
| <i>import quantity</i> | netto imp | | | | | | | | |
| <i>import value</i> | | | | | | | | | |
| <i>export quantity</i> | | | | | | | | | |
| <i>export value</i> | | | | | | | | | |
| <i>Capital intensity</i> | | | | | | | | | |
| Wheat | X | X | X | X | X | X | X | X | X |
| Rye | X | X | X | | | X | X | X | |
| Barley | X | X | X | X | | X | X | X | |
| Oats | X | X | X | X | | X | X | X | |
| Corn | | | X | | X | | | | X |
| Potatoes | X | | X | X | X | X | X | | X |
| Sugar | X | | X | | X | X | X | X | X |
| Eggs | X | X | | X | | X | X | | |
| Milk | | | | | X | X | X | | X |
| Cheese | | X | | | | | | | |
| Butter | X | X | X | X | | | | | |
| Cattle | X | | | X | X | X | X | X | X |
| Pigs | X | | X | | | | | X | |
| Sheep | | | | X | | | | | |
| Wine | | | X | | X | | | | X |
| Tomatoes | | | | | X | | | X | X |
| Oranges | | | | | X | | | X | X |
| (Partially) Missing data: | 1877-1904 1914-20 | 1940-45 | 1857-64 1914-19 1938-45 | 1875-85 | 1951-58 | Cattle | 1926-45 1905-26 (cons.) | 1875-1950 | 1951-58 |

| | |
|--|--|
| | disaggregated data |
| | aggregated for the whole agricultural sector |
| | only few years or few commodities |
| | not available |

3. Illustration of Some Indicators in the Dataset

Figure 1. Nominal Protection Coefficients (NPCs)

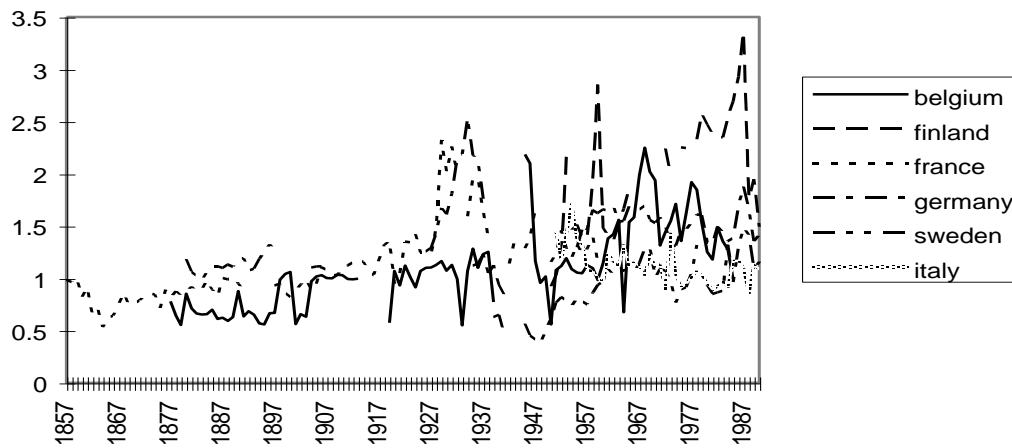


Figure 2. Share of active population in agriculture in total (active) population

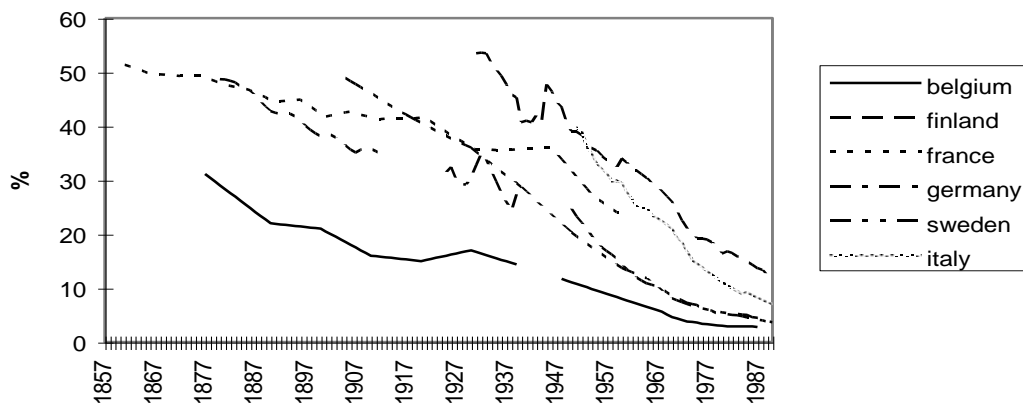
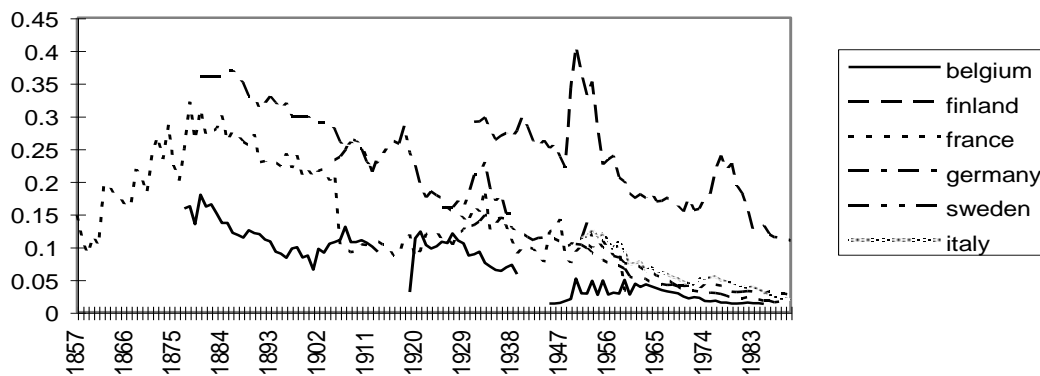


Fig3. Share of the agricultural sector in total GDP



4. Interpretation of Structural Changes and Policy Trends

In Swinnen (2009) I use the dataset to quantify the changes in agricultural protection by calculating long-run indices of agricultural protection over the century when the dramatic policy changes took place (i.e. from the 1870s to the 1960s) in Europe. I relate the variations in protection indicators to changes in agricultural policies and changes in political institutions and economic development, and structural change.

Swinnen, J., 2009, "The Growth of Agricultural Protection in Europe in the 19th and 20th Centuries", *The World Economy*, 32(11):1499-1537

4. Abbreviations, Definitions and Units

AFF: Ancien Franc Français (Old French Francs)

Bef: Belgian Francs

DM: German Marcs

Fim: Finish Marcs

SEK: Swedish Crowns

Pts: Spanish Pesetas

CONSH: share of consumption in total consumption expenditures

GDP: gross domestic product

GDPSH: share of a commodity in the gross domestic product

NPC: nominal protection coefficient

RPOP: share of population in the rural sector

cw: hundred weight, 1 cwt= 112 lbs, 1 lbs=0.4536 kg)

hl: hectoliter

kg: kilogram

pcs: pieces

qm: 100 kg

qu: 100 kg

Total Population

Units: in millions

Share of population in agriculture

Definition: population in the agricultural sector as percentage of the active population

Relative income of the agricultural sector

Definition: ratio of the average income per person in agriculture over the average income in non-agricultural sectors

Share of commodities in gross domestic product:

Definition: ratio (in percentage) of the product of the domestic price for a product and its quantity produced in the country divided by the GDP of the country.

Self Sufficiency Rate:

Definition: ratio (in percentage) of home production over home consumption.

Consumption = production minus net exports.

Note: Belgium, eggs, from 1925 to 1937 has negative numbers (export > production + import)

Share of food in consumers' expenditure:

Definition: Ratio of consumption expenditures to a commodity and the total consumption expenditures

Nominal protection coefficient:

Definition: Ratio of domestic price over border price.

Domestic producer prices

Belgium: bef per ton

Netherlands: bef per 100 kg, except butter, eggs and cheese: bef per kg

France: aff/qu except wine: AFF/hl, pork: AFF/kg

UK: £ per cwt, except eggs: shilling per 120 pcs

Germany: DM per 100 kg

Finland: fim per 100 kg

Sweden: sek per kg

Spain: pts per qm

Italy: lire per kg

Import prices

Belgium: bef per ton

Netherlands: bef per 100 kg, except butter, eggs and cheese: bef per kg

France: aff/qu except wine: AFF/hl, pork: AFF/kg. Wheat, potatoes and pork: export instead of import prices after 1949, barley: export prices after 1951 except 1953, rye and maize: export prices after 1949 except 1953-54, 1956, oats: export prices after 1949 except 1953, 1956, 1958, butter: export prices after 1956 except 1960.

UK: £ per cwt, except eggs: shilling per 120 pcs

Germany: DM per 100 kg

Finland: fim per 100 kg

Sweden: sek per kg

Spain: pts per Qm (except sugar: Pts per ton)

Italy: lire per kg

Consumer price index

Source: International Historical Statistics: Europe 1750-1993. B.R. Mitchell, 1998.
Base year is 1813

Border prices

Definition: Ratio of import value over import quantity for imported products; ratio of export value over export quantity for exported products.

Belgium: bef per ton

Netherlands: bef per 100 kg, except butter, eggs and cheese: bef per kg

France: base year 1901-10, AFF/qu, except wine: AFF/hl, pork: AFF/kg

UK: £ per cwt, except eggs: shilling per 120 pcs

Germany: base year 1913, DM per 100 kg

Finland: base year 1926, fim per 100 kg

Sweden: kr per kg

Production

Belgium: ton, except eggs: 1000 pcs, pigs: 1000 ton

Netherlands: 100 kg until 1910, from 1920-1938: hl, from 1983: ton, beef and mutton: pcs
France: million qu, except wine: 1000 hl, sugar and butter : 1000 ton,
UK: 1000 ton
Germany: 1000 ton (except eggs: million pcs)
Finland: ton, except milk: kg and beef: pcs
Sweden: ton
Spain: 1000 qm (except sugar cane, tomato)
Italy: 100 ton (except wine: 1000hl)

Import quantities

Belgium: ton net imports (except eggs: 1000 pcs, pigs: 1000 ton)
Netherlands: 1000 kg
France: million qu
Germany: 1000 ton (except cattle and pigs: pcs)
Finland: kg.
Sweden: ton
Spain: ton except wheat: 1875-1935: 1000 qm, maize: 1000qm

Import value

Netherlands: 1000 gldn
Germany: million DM
Finland: fim
Sweden: 1000 kr
Spain: 1000 pts

Export quantities

Netherlands: 1000 kg
France: million qu
Germany: 1000 ton (except eggs: million pcs)
Finland: kg.
Sweden: ton
Spain: ton except wheat: 1875-1935: 1000 qm,

Export value

Netherlands: 1000 gldn
Germany: million M
Finland: fim
Sweden: 1000kr
Spain: 1000pts

Capital intensity

Only available for Belgium and Germany (RM per labour unit)

5. Country and Commodity Codes

| Commodities | Countries |
|--------------|---------------|
| 1 Wheat | 1 Belgium |
| 2 Rye | 2 Netherlands |
| 3 Barley | 3 France |
| 4 Oats | 4 UK |
| 5 Corn | 5 Germany |
| 6 potatoes | 6 Finland |
| 7 Sugar | 7 Sweden |
| 8 Eggs | 8 Spain |
| 9 Milk | 9 Italy |
| 10 Cheese | |
| 11 Butter | |
| 12 Beef | |
| 13 Pork | |
| 14 Mutton | |
| 15 Poultry | |
| 16 Wine | |
| 17 Tomatoes | |
| 18 Oranges | |
| 19 Grains | |
| 20 Meat | |
| 21 Rice | |
| 90 Tot. Food | |
| 99 Total | |

6. Data

Download the data [here](#).